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EXAMINER

MOORE JR, MICHAEL J

ART UNIT PAPER NUMBER

2666

DATE MAILED: 02/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/023,094

Applicant(s)

OUYANG ET AL.

Examiner

Michael J. Moore, Jr.

Art Unit

2666

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 December 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-19 and 21-24 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-4,6-19 and 21-24 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 06 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. Replacement drawings were received on 12/6/2005. These drawings are acceptable and have been entered.

Claim Objections

2. Claim **21** is objected to because of the following informalities: On line 2, the word "the" before word "length" should be "a".

Appropriate correction is required.

Amendments made to claims **2-4, 8, 10-12, 15, 19, and 22-24** to overcome claim objections of the previous Office Action are proper and have been entered. These objections have been withdrawn.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

4. Claims **16 and 21** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim **16** recites the limitation "said data" in line 3. There is insufficient antecedent basis for this limitation in the claim.

6. Claim **16** recites the limitation "said predetermined criteria" in line 12. There is insufficient antecedent basis for this limitation in the claim.

7. Claim **21** recites the limitation "The apparatus of claim 20" in line 1. There is insufficient antecedent basis for this limitation in the claim. It is believed that claim **21** should now depend upon *amended* claim **16**.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims **1, 4, 6, 7, 9, 10, 13, 14, and 16-19** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahmavaara et al. (U.S. 6,842,445) ("Ahmavaara").

Regarding claim **1**, Ahmavaara teaches a hybrid ARQ method with soft combining where an erroneous packet (previous packet) is received and stored in the receiver (second storage medium) and then combined with a retransmitted version of the same packet as spoken of on column 3, lines 56-61.

Ahmavaara does not explicitly teach the determination of whether a received packet is a retransmitted packet by examining a medium access control (MAC) frame in the received packet.

However, Ahmavaara does teach that soft combining of several transmissions when erroneous packets are not discarded requires that a retransmitted MAC PDU has to be identical to the originally transmitted MAC PDU on column 5, lines 17-28.

At the time of the invention, it would have been obvious to someone skilled in the art to use this identical MAC PDU requirement (criteria) of soft combining as taught in Ahmavaara to detect retransmitted packets in order to regulate the soft combining of packets.

Regarding claim 4, Ahmavaara further teaches the soft combining of a received erroneous packet with a retransmitted version of the same packet as spoken of on column 3, lines 56-61.

Regarding claim 6, Ahmavaara further teaches a Radio Network Controller (RNC) (access point) in Figure 7 used in the soft combining process.

Regarding claim 7, Ahmavaara further teaches a User Equipment (UE) (mobile station) in Figure 7 used in the soft combining process.

Regarding claim 9, Ahmavaara teaches a hybrid ARQ method with soft combining where an erroneous packet (previous packet) is received and stored in the receiver (second storage medium) and then combined with a retransmitted version of the same packet as spoken of on column 3, lines 56-61.

Ahmavaara does not explicitly teach the comparison of a PLCP and MAC header of an incoming packet to a previously received erroneous packet to detect whether the incoming packet is a retransmitted version of the erroneous packet.

However, Ahmavaara does teach that soft combining of several transmissions when erroneous packets are not discarded requires that a retransmitted MAC PDU has to be identical to the originally transmitted MAC PDU on column 5, lines 17-28.

At the time of the invention, it would have been obvious to someone skilled in the art to use this identical MAC PDU requirement (comparison) of soft combining as taught in Ahmavaara to detect retransmitted packets in order to regulate the soft combining of packets.

Regarding claim **10**, Ahmavaara further teaches the soft combining of a received erroneous packet with a retransmitted version of the same packet as spoken of on column 3, lines 56-61.

Regarding claim **13**, Ahmavaara further teaches a Radio Network Controller (RNC) (access point) in Figure 7 used in the soft combining process.

Regarding claim **14**, Ahmavaara further teaches a User Equipment (UE) (mobile station) in Figure 7 used in the soft combining process.

Regarding claim **16**, Ahmavaara teaches a hybrid ARQ method with soft combining where an erroneous packet (previous packet) is received and stored in the receiver (demodulation, storage, and combining means) and then combined with a retransmitted version of the same packet as spoken of on column 3, lines 56-61.

Ahmavaara does not explicitly teach a processor determining whether a received packet is a retransmitted packet by comparing a medium access control (MAC) frame of the received packet and the previous packet.

However, Ahmavaara does teach that soft combining of several transmissions when erroneous packets are not discarded requires that a retransmitted MAC PDU has to be identical to the originally transmitted MAC PDU on column 5, lines 17-28.

At the time of the invention, it would have been obvious to someone skilled in the art to use this identical MAC PDU requirement (criteria) of soft combining as taught in Ahmavaara to detect retransmitted packets in order to regulate the soft combining of packets.

Regarding claim **17**, Ahmavaara further teaches antennas used by base stations and user equipment in Figure 1 for data transmission and reception.

Regarding claim **18**, Ahmavaara further teaches the soft combining of a received erroneous packet with a retransmitted version of the same packet as spoken of on column 3, lines 56-61.

Regarding claim **19**, Ahmavaara further teaches the soft combining of a received erroneous packet with a retransmitted version of the same packet as spoken of on column 3, lines 56-61.

11. Claims **2, 3, 8, 11, 12, 15, and 21-24** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahmavaara et al. (U.S. 6,842,445) ("Ahmavaara") in view of Gubbi (U.S. 6,934,752) ("Gubbi").

Regarding claims **2, 3, 8, 11, 12, 15, and 21-24**, Ahmavaara does not explicitly teach the determination of whether a received packet is a retransmitted packet according to the comparison of fields (length, retry bit, sequence control, address) of a MAC frame of a received packet and a stored erroneous packet.

However, Ahmavaara does teach that soft combining of several transmissions when erroneous packets are not discarded requires that a retransmitted MAC PDU has to be identical to the originally transmitted MAC PDU on column 5, lines 17-28. It follows from this that the MAC header fields have to be identical.

Gubbi further shows the fields contained in a MAC header field in Figure 5. At the time of the invention, it would have been obvious to someone skilled in the art to use the identical MAC PDU requirement (criteria) of soft combining as taught in Ahmavaara with the MAC header fields shown in Gubbi to compare these header fields in order to detect retransmitted packets and regulate the soft combining of packets.

Response to Arguments

12. Applicant's arguments filed 12/6/2005 regarding claims **1, 9, and 16** have been fully considered but they are not persuasive.

Regarding *amended* claim **1**, Applicant argues that *Ahmavaara* teaches away from "examining a medium access control (MAC) frame in the received packet to determine whether the received packet is a retransmitted packet" and rather teaches the use of outband signaling to tell the receiver that a current packet is a retransmitted packet.

While this argument is noted, *Ahmavaara* does teach that soft combining of several transmissions (initial transmission and retransmission) when erroneous packets are not discarded requires that a retransmitted MAC PDU has to be identical to the originally transmitted MAC PDU on column 5, lines 17-28. This implies that in order to use soft combining, the individual fields of the MAC headers of these MAC PDU's must also be identical.

It is held that at the time of the invention, it would have been obvious to someone of ordinary skill in the art, given the above teaching, to imply a method of comparing the MAC header fields of a stored packet with an incoming packet to determine whether the incoming packet is a retransmitted packet (if the MAC headers are identical), and ultimately whether to combine these packets.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Conclusion

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13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Malkamaki (U.S. 2002/0172208) and Sun et al. (U.S. 6,741,581) are additional references considered pertinent to this application.

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Moore, Jr. whose telephone number is (571) 272-3168. The examiner can normally be reached on Monday-Friday (8:30am - 5:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao can be reached at (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael J. Moore, Jr.
Examiner
Art Unit 2666

mjm:MM

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